REMARKS

This Response is responsive to the non-final Office Action mailed August 31, 2007. Claims 1-6, 8, 10, and 25-28 are pending. Claims 1 and 25 have been amended. In view of the following remarks, as well as the preceding amendments, Applicants respectfully submit that all claims in this application are in complete condition for allowance and request reconsideration of the application in this regard.

Rejections of Claims Under 35 U.S.C. § 102

Claims 1, 4-6, 8, 10, and 25-28 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Choi et al. (U.S. Patent No. 6,566,704), hereinafter *Choi*. Claims 1 and 23 are independent claims. The Examiner contends that *Choi* shows or teaches all the elements of the rejected claims. Applicants respectfully disagree with this contention for the reasons set forth below.

With regard to independent claim 1, the Examiner contends that "Fig. 3F and related text" of *Choi* discloses a semiconductor device structure that includes "a plurality of semiconducting nanotubes 100 (see column 3, lines 39-43)." However, the device structure disclosed in Fig. 3F of *Choi* includes only a single nanotube 100. Specifically, *Choi* discloses that "as shown in Fig. 3F, a drain 50 is formed over the nonconductor film 30 and the carbon nanotube 100." *See* column 4, lines 30-32. As used in this text from *Choi*, the term "the carbon nanotube 100" is singular, not plural. Fig. 3F is consistent with the text in that only one nanotube (100) is visible. A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art. *See* MPEP § 2123. For this reason alone, *Choi* would not have reasonably suggested to one having ordinary skill in the art that the device structure depicted in Fig. 3F includes multiple nanotubes (100).

Moreover, the description of Fig. 3C in *Choi* states that "a carbon nanotube 100 is vertically grown on the source 40." *See* column 4, lines 21-25. The term "a carbon nanotube 100" refers to a single nanotube. Hence, in connection with Fig. 3C, the text in *Choi* fails to describe that multiple nanotubes (100) are grown on the source (40). Fig. 3C is consistent with the text in that only one nanotube (100) is visible. The device structure shown in Fig. 3F results from subsequent processing of the device structure shown in Fig. 3C. For this additional reason,

it follows that the Examiner's conclusion that Fig. 3F of *Choi* discloses the presence of more than one nanotube (100) on source (40) is incorrect. For this additional reason, *Choi* would not have reasonably suggested to one having ordinary skill in the art that the device structure depicted in Fig. 3F includes multiple nanotubes (100).

In order for a reference to anticipate the invention in a claim, the reference must teach each and every element in the precise arrangement set forth in the claim. *See* MPEP § 2131. If the reference fails to teach even one of the claimed elements, the reference does not and cannot anticipate the claimed invention. Because *Choi* fails to disclose that the device structure shown in Fig. 3C includes "a plurality of semiconducting nanotubes", *Choi* fails to anticipate independent claim 1. Therefore, Applicants respectfully request that the Examiner withdraw the rejection.

To support this ground of rejection under 35 U.S.C. § 102, the Examiner is improperly attempting to modify the device structure shown in Fig. 3F of *Choi*, which unambiguously discloses the presence of a single nanotube (100), based upon the isolated statement made at column 3, lines 39-43 of *Choi* of "[a] vertical nano-sized transistor using carbon nanotubes" and without any rationale whatsoever for making such a modification to the device structure shown in Fig. 3F. This attempted modification by the Examiner is improper under the auspices of a rejection under 35 U.S.C. § 102.

Because claims 2-6, 8, and 10 depend from independent claim 1, Applicants submit that these claims are also patentable for at least the same reasons discussed above. Furthermore, these dependent claims recite unique combinations of elements not disclosed or suggested by *Choi*.

Applicants' independent claim 25, as amended, is patentable for at least the same or similar reasons as independent claim 1. Specifically, Fig. 3F and related text of *Choi* fails to disclose a device structure including "a plurality of nanotubes," as set forth in Applicants' independent claim 25. For at least this reason, Applicants respectfully request that the Examiner withdraw the rejection.

Because claims 26-28 depend from independent claim 25, Applicants submit that these claims are also patentable for at least the same reasons discussed above. Furthermore, each of

these dependent claims recites a unique combination of elements not disclosed or suggested by *Choi*.

Rejection of Claims Under 35 U.S.C. § 103

Claims 2 and 3 over Choi

Claims 2 and 3 stand rejected under 35 U.S.C. § 103(a) as unpatentable over *Choi*. Because claims 2 and 3 depend from independent claim 1, Applicants submit that these claims are patentable for at least the same reasons. Specifically, with regard to a rejection under 35 U.S.C. § 103(a), a prima facie case of obviousness requires that the references "teach or suggest all the claim limitations." *See* MPEP 2143.03. Furthermore, these dependent claims recite unique combinations of elements not taught, disclosed or suggested by *Choi*.

Conclusion

Applicants have made a bona fide effort to respond to each and every requirement set forth in the Office Action. In view of the foregoing remarks, this application is submitted to be in complete condition for allowance and, accordingly, a timely notice of allowance to this effect is earnestly solicited. In the event that any issues remain outstanding, the Examiner is invited to contact the undersigned to expedite issuance of this application.

Applicants do not believe fees are due in connection with filing this communication. If, however, any fees are necessary as a result of this communication, the Commissioner is hereby authorized to charge any under-payment or fees associated with this communication or credit any over-payment to Deposit Account No. 23-3000.

Respectfully submitted,

November 15, 2007
Date

/William R. Allen/
William R. Allen, Ph.D.
Reg. No. 48,389
WOOD, HERRON & EVANS, L.L.P.
2700 Carew Tower
441 Vine Street
Cincinnati, Ohio 45202
Telephone: (513) 241-2324
Facsimile: (513) 241-6234